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TAGS: ENRG ETTC PREL TRGY KNNP
SUBJECT: IAEA: SEMINAR ON GLOBAL NUCLEAR FUEL SUPPLY DEPICTS A STRONG INDUSTRY AND THE COMPLEXITY OF NUCLEAR POWER

SUMMARY

¶1. (SBU) On January 26, the Permanent Mission of Japan in Vienna held a Seminar on Global Nuclear Fuel Supply. The seminar was attended by delegations from 63 countries including Canada, Germany, South Africa, Brazil, Egypt, Pakistan and Australia, as well as numerous NGOs, academic and industry representatives. Japan elaborated on its proposal for an IAEA Standby Arrangements System but acknowledged the proposal has not been adequately developed. Ambassador Schulte highlighted the new Administration's commitment (para. 14) to an international nuclear fuel bank and called on DG ElBaradei to once again take the lead. The conference contributed to a needed change in atmosphere surrounding the issue of reliable access to nuclear fuel by focusing on the technical and financial realities of nuclear power in the global market. Two overarching themes highlighted by all experts were 1) the international market is diverse and competitive and 2) there is plenty of current and projected capacity for uranium enrichment even under the most optimistic nuclear energy growth scenarios. END SUMMARY

IAEA AND OECD

¶2. (U) Hans Forsstroem, Director of IAEA's Division of Nuclear Fuel Cycle and Waste Technology, provided an overview of the nuclear fuel cycle and emphasized the different markets countries must consider when entering into the nuclear energy arena. Forsstroem showed that competitive markets exist for each step of the nuclear fuel cycle and that utilities can take advantage of this by creating long-term or spot contracts. He noted that while there has been some spot price volatility, specifically in the natural uranium and light enriched uranium (LEU) markets in recent years, the efficiency of the markets will continue because of the prevalence of long term contracts between utilities and suppliers. Forsstroem did not comment on the IAEA's potential role in an international fuel bank.

¶3. (U) Robert Vance, Nuclear Development Division, Organization for Economic Co-operation and Development (OECD) focused his presentation on the current and future market trends in nuclear fuel supply. Vance concluded that while conversion and enrichment capacities are limited in the short term, vendors are poised to expand with the appropriate market signals and support nuclear power growth. One area of concern for the OECD is the development of new uranium mines. Some barriers to new uranium mines include limited market transparency, low public acceptance, regulatory requirements, government initiatives, and market turmoil. However, Vance illustrated that identified resources of natural uranium are sufficient for 100 years of current consumption levels and that mine

production capability is expected to be adequate to meet even the highest case of uranium requirements through 2030. He also indicated that strong market conditions were necessary to ensure the accuracy of his predictions.

INDUSTRY VIEWS

¶4. (U) Japan asked major nuclear industry companies to discuss their roles in the markets and market projections. U.S. industry was represented by Westinghouse.

¶5. (U) George Capus, VP of Front-End Marketing for AREVA, presented "Primary and secondary sources in Global Nuclear Fuel Supply; focus on Uranium." Capus emphasized the fact that while there are sufficient identified resources of uranium, market conditions and production costs will determine the degree to which they are explored. There is, according to Capus, a lot of uncertainty surrounding the projected uranium demand because of vastly different predictions of how many operating nuclear reactors will be in place in the future. He also pointed out that recent spot price volatility may indicate that the uranium market may be entering a period of instability. His recommendation was to de-commoditize uranium in an attempt to smooth its market volatility. This, in his opinion, would provide secure, long term sources of uranium. Comment: AREVA has business interests in all parts of the fuel cycle including uranium mining, conversion, and enrichment. The desire for de-commoditizing uranium is a business position. Capus did not present any reasons why the traditional supply and demand market for uranium would not continue to work in the future. End Comment

¶6. (U) Mark Elliott, Director of Marketing and Sales at URENCO,

discussed "Enrichment: Present and Projected Future Supply and Demand." He emphasized that long-term fuel cycle contracts will provide reliable supply at predictable costs to both utilities and uranium suppliers. He also highlighted the industry-wide introduction of centrifuge technology and projected that by 2015 all gas diffusion enrichment still in use today would be completely de-commissioned, or nearly so. Elliott concluded that current enrichment capacity and the planned expansion and/or update of enrichment facilities would be more than enough to meet projected demand for nuclear power plants. Following Elliot's presentation, IAEA Secretariat Staffer Tariq Rauf asked about the possibility of Kazakh or Australian investments in new enrichment projects. Elliott did not believe that such investment would occur before ¶2020. German PermRep Luedeking questioned Elliot's assertion that URENCO's share in world wide enrichment capacity would decrease after 2015. Elliott clarified that URENCO only announced plans for enrichment expansion and update through 2015 and that the flat lining in his projection after that year would change with future announcements. Answering questions about general market fluctuations, Elliot emphasized that the market could respond to fluctuations in supply and demand and that long term contracts are preferable for keeping the market grounded. He also commented that a nuclear fuel bank would provide some form of supply assurance to new countries looking to develop nuclear power.

¶7. (U) Alexander Pavlov, Director of Advanced Technologies Analysis for TENEX, presented "Enrichment: Recent and Projected Future, Supply and Demand - TENEX View." He focused primarily on the particularities of the market and the role of TENEX in the global enrichment market. He said that historically, Russian products have been subject to unjust trade restrictions, including the Amended Suspension Agreement and Domenici Law in the United States and the unofficial quotas in place within the European Union. He argued that the restrictions on Russian imports show how the market for uranium is not "real" because of interference from governments and regulators. Echoing other industry reps, Pavlov also projected that by 2015 at least 96 percent of all enrichment will be conducted utilizing centrifuge technology. In the follow-on, South Korea asked what Russia's position is vis a vis the U.S. and EU supply restrictions. Pavlov responded that the U.S. restriction was making U.S. utilities "nervous because they were unsure if they could sign long term contracts with TENEX." Regarding the EU, Pavlov responded that the rules in the EU are not strict and some companies violate the 20 percent limit. Furthermore, he commented that the very

existence of discriminatory rules was detrimental to the entire idea of a market for uranium products.

¶8. (U) Dr. Vincent Esposito, VP for Asia Fuel Business at Westinghouse, presented "Fuel Fabrication: Today to Tomorrow". He noted that fuel is seven percent of the operating costs of a nuclear power plant, yet fuel fabrication, being reactor-specific, leverages 93 percent of other operations. The goal of fuel suppliers is to get the maximum energy out of the uranium in the most safe and reliable manner. Uranium is a commodity, because it is used in all assemblages. But every supplier has its own proprietary assemblage, and the analytical testing and compliance with regulatory structures that differ from country to country entail the greatest part of the cost and makes changing one's supplier of fabricated fuel very costly and time-consuming. It is this discussion of analytical engineering that is most often forgotten in discussion but is one of the most critical pieces. A regulatory delay can cost as much as USD 10 million a day in delays to utility suppliers. At this moment, Esposito said, Asia is leading Europe and the U.S. in fuel fabrication; however fuel fabrication far outpaces fuel demand. Fuel enrichment is a global question where as fuel assembly, license, design and transportation are all local problems. During the Q&A, Laura Holgate, Nuclear Threat Initiative, asked whether focusing on regulations from the beginning would shorten overall timelines for new suppliers. Esposito estimated that it would take an experienced supplier 3-5 years to get through the regulatory process but that most utilities use several different fuels for fuel security reasons. An IAEA representative asked for the advantages and disadvantages of storage, what the shelf life of assemblies are and whether utilities are stuck with certain designs. Esposito said that few utilities store longer than 9 months but if chemistry is monitored in the fuel pit, the shelf life is actually very long, however disadvantages include expense and that if criteria changes and the spent fuel is not "grandfathered in," then it may cause a problem to use it down the line. South Korea asked that since requirements are outpacing capacity and design is outpacing requirements, what is the best form to stock uranium- in powder or pellets? Esposito recommends looking further down the value chain to see where the best investment is and noted that UO2 is easier to keep than their assemblies, and that as a second option, tubing and

grids have certain limitations so these are also strategic to keep on hand. Mongolia, noting its interest in nuclear energy, asked if it will be possible to have standard designs in the future. Esposito quickly said this would not be feasible since it would take away the competitive spirit of the market. The last question, from Pakistan, focused on life time guarantees for fuel and how fluctuations and/or disruptions would be compensated. Esposito noted that there are contracts for lifetime supply and that as for all commodities, price escalation would be built on different contracting mechanism treating materials, labor and party agreement.

JAPAN

¶8. (U) Ms. Tomiko Ichikawa, Director for Nonproliferation, Science and Nuclear Energy for the Japanese Ministry of Foreign Affairs, and Mr. Yosuke Naoi, Senior Principal Engineer and General Manager for the Japanese Atomic Energy Agency updated the seminar participants on Japan's "IAEA Standby Arrangements Systems for the Assurance of Nuclear Fuel Supply" proposal. The proposal, originally introduced in September 2006, asks countries to voluntarily notify the IAEA of their ability to participate in a fuel supplier's database by registering their capacities in three areas: 1) providing products and services domestically, 2) exporting on a commercial basis, and 3) ability to export on a short term notice. The IAEA would serve as the administrator of the database and as intermediary should fuel supply be disrupted. Japan sees their proposal as being complimentary and compatible with the other known fuel bank or fuel assurance initiatives some member states have put forward.

¶9. (SBU) Intended or not, Japan's outline of its databank concept touched off a flurry of questions on the practicalities of assuring reliable access to fuel. Mongolia asked what would happen to the spent fuel. The Japanese noted this was not part of their proposal. Russia focused on how the IAEA would assess market volatility and

what the criteria for participation would be. Japan reiterated that the IAEA would only administer the database and that criteria would have to be discussed among member states. Iran pressed for clarification of the IAEA's role, but Japan stated that it only wanted to illustrate front-end options and that the proposal calls for registration of capabilities only. Chile questioned which recipient states would be able to participate should an interruption occur. Japan said the proposal would be open to more states than just those who register. Turkey picked up on the Agency's role as a potential supplier should a disruption occur and asked about the feasibility of this. Japan deflected and referred the question to a general discussion needed among IAEA member states on fuel assurances. South Korea asked for updates on the German, Russian, and NTI proposals for a fuel bank, however, no one spoke up in response. Egypt ended the discussion noting that the Japanese proposal seems to increase the number of steps between the supplier and consumer and asked who will ensure transfers. Japan said this would be between the supplier and recipient to determine.

General Discussion

¶10. (U) The Czech Republic, as the EU Presidency, spoke on behalf of the EU. The EU statement noted great interest in the various proposals for an international fuel bank. The Czechs recalled the EU's decision to back the NTI proposal with 25 million Euros, as it considers the safe development of nuclear energy as very important to countries' development programs. In closing, the EU said it was eager to move the discussion among member states and the Agency forward toward making multilateral fuel supply a reality.

¶11. (U) Ambassador Schulte reiterated U.S. support of the international fuel bank both financially and politically. He said the creation of the international fuel bank would help those countries looking to develop alternative energy sources while minimizing the threat of nuclear proliferation. He implored the Director General to be a vocal advocate of the establishment of the fuel bank and encouraged member states to begin a detailed discussion of specific concepts in the IAEA Board. Ambassador Schulte's statement is in para 14.

¶12. (U) Iran, immediately after the U.S. statement, noted it was "unexpected" to have political statements from groups of countries at a technical seminar. Japan countered that its intention was to focus on various aspects and they hope the seminar has contributed to a better understanding and commitment to the issues. South Korea

ended the discussion by underscoring the usefulness of the seminar and encouraged Japan to continue their leadership in the dialogue.

COMMENT

¶13. (SBU) The seminar served to highlight a number of important factors that speak both for and against a concerted effort to create an international fuel bank and/or other mechanisms which guarantee reliable access to nuclear fuel in case of disruption. Industry experts, across the board, indicated that present enrichment activities outpace energy demand and will continue to do so until at least 2030. They urged member states to consider innovative technologies in fuel fabrication, supply, transportation options and market trends when discussing fuel assurances and stressed that it is unnecessary for any country to be concerned with a lack of enriched uranium, as such material is readily available on the open market. On the other hand, many experts also pointed out how diverse the market is, which could lead some to question the utility of a mechanism of "last resort" to guarantee fuel supply. Keeping technical issues in mind, the seminar provided a much needed non-political atmosphere for IAEA member states to begin discussing the international fuel bank. The non-confrontational and conciliatory tone of the meeting lends itself well to further multilateral discussions among IAEA member states. Mission will use the momentum generated by the seminar and encourage Japan's further leadership along with like-minded and G-77 countries that show signs of interest in an INFB to move discussion forward prior to and at

the March Board.

STATEMENT

¶14. (U) BEGIN STATEMENT TEXT:

Mr. Chairman,

Thank you and thanks to your Mission for bringing us together today to discuss global nuclear fuel supply. I would also like to thank the experts from industry, countries, and NTI for helping us understand the markets and issues.

Mr. Chairman,

President Obama and Secretary of State Clinton have expressed strong support for the creation of an IAEA fuel bank. While in the Senate, both supported legislation providing $50 million to the IAEA for the creation of an international fuel bank. They believe the United States should work with other countries and the IAEA to put into place new mechanisms, including an international fuel bank that would allow countries to benefit from the peaceful uses of nuclear energy without increasing the risks of nuclear proliferation.

An international fuel bank could reassure countries embarking on or expanding nuclear power programs that they could rely on the international market for nuclear fuel with a safety net in place in the event of a disruption. This would reduce any incentives a country interested in nuclear energy might have for going to the trouble and expense of building its own enrichment or reprocessing facilities.

To help establish a fuel bank, the United States has contributed nearly $50 million to the IAEA. Taken together with donations from the European Union, the United Arab Emirates, Norway, and the Nuclear Threat Initiative, a significant level of funding is now available to create a Nuclear Fuel Bank under IAEA auspices. Additional contributions would be welcome to offset exchange rate fluctuations and help bring a good concept to practical reality.

Parallel to U.S. support for the fuel bank the U.S. engages in other respects with states considering or preparing their entry into nuclear power generation. One small example is an upcoming seminar in Rabat on human resource needs for nuclear power, hosted by the U.S. Department of Energy and a leading Moroccan institute, to which delegates from Algeria, Egypt, Jordan and Tunisia are also being invited.

To support those countries looking to develop alternative energy sources while limiting the spread of bomb-making technologies, moving forward on the IAEA's Fuel Bank is a priority that all member states should share. We look to the Director General, who was an

early advocate of fuel banks, and to the IAEA Board of Governors to act swiftly to create the necessary mechanisms that would make the Agency's Fuel Bank a reality.

Many countries have said rightly that the details of a fuel bank deserve careful consideration by the Board. The funding and framework are now on the table, and the time has now arrived to discuss the specific concepts.

We look forward to starting this discussion to achieve a result that can enjoy broad support across the Board and between those countries with established nuclear power programs and those just now considering the benefits of nuclear power. Thank you.
END STATEMENT TEXT.

SCHULTE